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EDITED BY WILLIAM HUNTING, F.R.C.V.S.

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GLANDERS IN LONDON.

The summary of returns under the Diseases of Animals Acts for the week ending July 29th shows that no case of glanders was detected in London during the week. Of course this does not suggest that the disease has been stamped out in the metropolis, but it is strong evidence that the Order of 1897 is being so administered as so ensure success. Before the Order was in force London had some 30 cases a week, and this is the second time that a free bill has been attained.

The long period of latency of the disease is the difficulty in clearing out glanders. Months may pass during which an unsuspected horse may remain infected without any indication of his condition, and then he may develop clinical symptoms and infect other horses. Without mallein these cases might continue the disease for years, but as each clinical case is now followed by a mallein test of the whole stud there is little chance for the escape of infection, and so we may look forward with confidence to the entire suppression of glanders at no distant date in Great Britain. Ireland is already free.

THE V.M.A. OF IRELAND.

From the report of this Association's proceedings which we print this week, it will be seen that Profs. Mettam, Craig, and O'Connor provided the members with material for discussion of quite unusual interest and variety. Four communications from the Dublin teachers were placed before the meeting —all of scientific interest and all having considerable practical bearing upon every day clinical work, while their diversity of subject-matter catered for the needs of all the members. Every practitioner should read the full report; and, whatever his line of practice may be, he will find something of interest and value.

First came a *resumé* of experimental work, some of it performed at the Dublin school, upon the still somewhat debateable question of the fate of fluids in the stomach of ruminants—a subject of incalculable importance in country practice, as was well illustrated by the discussion. Then followed some experiments upon eserine, which do much to discredit the view that that drug is unreliable in its effects upon the normally charged equine intestine. Next came a contribution to the question of canine and feline tuberculosis—a subject which certainly has not yet received the amount of general attention it deserves from practitioners. Finally, Prof. O'Connor presented a report upon the results of the "roaring operation," showing a commendable attention to detail. Not all of the cases reported upon can yet be finally set down as successes or failures; but the present results distinctly support a view which is now gaining ground, viz., that causes other than paralysis of the arytenoid produce roaring more frequently than has been generally supposed. This may, in one sense, cast undeserved discredit upon the operation, but it certainly limits its usefulness.

The next meeting of the Association will afford a good opportunity of ascertaining the present views of Irish veterinarians regarding roaring and its treatment, for Prof. Craig has promised a paper upon "Roaring and whistling." But it seems evident that all treatment will be more or less unsatisfactory until we can improve our knowledge of the complex pathology of roaring, and our methods of clinical differential diagnosis. An exploratory incision into the larynx is hardly an ideal diagnostic procedure; and there seems to be no other method of determining whether or not arytenoid paralysis exists.

The staff of the Dublin College, however, are doing their share of work upon roaring—ond upon other subjects of even greater importance to the practitioner. They presented a portion of it at the meeting under notice, and its value will be widely recognised outside Ireland.

PITFALLS.

It would seem not unreasonable to suggest that the question of the lurking snares and pitfalls that lie privily in wait for the first tottering steps of the veterinary aspirant might with profit constitute a subject for a short course of lectures at our Colleges. In view, moreover, of the early essay into the art of healing made by most keen students, the first year might be chosen as a suitable opportunity for a little light upon the path. Theoretically of course the student is not supposed on the passing of his first examinaiion to have entered upon that stage of his education which would justify him in undertaking any treatment. In point of fact, however, the average student is not slow to avail himself, during a vacation in his own district, of any small prestige that may attach to his being at a Veterinary College, and he is humanly apt to "assume a virtue" if he hath it not. There must be many of us to whom the twinges of a remorseful conscience will testify to the truth of this statement, when, with zeal vastly disproportionate to knowledge, we rushed in like fools "where angels fear to tread." There are, of course, fatalists who say that each man must make his own mistakes and gain thereby his own bitter experience, but though this conclusion is to a slight extent admissible, it is far too pernicious a doctrine to admit unreservedly. To admit this

would be to place empiricism on a lofty pedestal at the foot of which education would clamber in vain. The red flag in the hedge is sufficient evidence of wire to most people; it is only exceptionally that a broken arm or collar bone is necessary to demonstrate its significance. There is no doubt that in the course of College education the majority of our teachers endeavour to point out as they go along the mistakes that are likely to be made, and the course that should be taken to avoid them, but these warnings coming, as they often do, as additional pabulum to a mind already gorged with facts and in a state of mental dyspepsia, are not digested as they should be. If a separate subject could be made it would appear likely that the lessons might be better taken to heart.

And now to take a few illustrations of these pitfalls. The ill-judged poulticing and hot fomentation of a wound in the region of a joint, leading to softening and ultimate septic infection of the joint. The recollection is still sore with me how that I brought about the uselessness of a hundred guinea hunter, that had injured his knee by falling with me in a point-to-point, by these means. Fortunately he was the property of a close and amiable relative. Thinking to effect a speedy cure I instituted a course of poulticing—hot fomentations which were followed in the fullness of time by escape of synovia from the softened capsular ligament, infection, and open joint. This was during my second year.

Another well marked case of error that occurs to me was castration by not over clean ligature leading to schirrus cord and subsequently peritonitis and death.

The opening of a bursal enlargement over the cervical vertebræ leading to infection and fistulous wither.

The opening of a bursal enlargement in front of fetlock (due to rupture the result of contusion), leading to septic infection and death.

The administration of aloes in Pink-eye. In this case the yellow staining of the conjunctiva evoked the diagnosis of "liver out of order." How was the poor tyro to know that this pigment staining is hæmatogeuous and not hepatogenous in origin. In this case the result was superpurgation and death.

Puncture firing of a slight spavin leading to penetration of the true hock joint and subsequent septic arthritis.

It is hardly necessary to multiply instances. All of us must be able to recall such mistakes. The epitaph "killed by kindness" might be written over scores of nameless graves, and the murderer has not always been a layman.

"Seeing practice" as a student goes far to place the qualified V.S. above the danger of the simpler errors, but it is sad to contemplate the slaughter of the innocents that have marked his uphill progress. In many cases, too, where the student is seeing practice with a busy V.S. it frequently happens that almost at the beginning of his experience a lad of promise has many fairly responsible cases delegated to him for his sole treatment.

There are many points on which a lecturer might lay great stress. The danger of probes. Even in the most experienced and expert of hands the probe is not always a safe instrument; in the hands of the tyro it becomes a menace. A movement of the animal and in goes the probe, opening up fresh tissues for infection, penetrating synovial capsules, and doing all manner of harm. Then the drenching of animals indiscriminately. The tying up of the head of a pneumonia case while copious libations of fluid and frequently acrid drugs are poured impartially down trachea and œsophagus. The castration of colts through a tiny crooked incision in the scrotum through which the testicle can only be squeezed with difficulty, leaving a dependant pocket admirably suited for the retention of wound discharge. The cauterization of the bleeding spermatic cord stump with *white* hot iron, and the application at the same unsuitable temperature to the docked tail stump.

The mistakes which the tyro makes are not new mistakes. They are the same mistakes over and over again with each succeeding generation. They are not even numerous. They should form a subject, the instruction in which should be so thorough that each student on being questioned would be certain of 75% marks.

WAKEFIELD RAINEY, Capt. A.V.C.
Tempe, Orange Free State.

PARALYSIS IN DOGS.

By HENRY GRAY, M.R.C.V.S.

"W. R. C." in a footnote to a translation from the German on "The Conformation of the Dachshund as a Cause of Paraplegia" questions Jakob's conclusion that long-back breeds are more commonly affected than those having short backs.

Although I cannot accept Jakob's explanation of the causation of paraplegia in Dachshunds, my experience so far as the disease being oftener encountered in long-back dogs absolutely coincides with his.

I have found that nine cases out of ten occur in long-back dogs; nine cases out of ten of these in the Dachshund, and nine cases out of ten in the Dachshund in the fawn variety

In the fawn variety it seems hereditary. This can be explained by Mendel's Law. In numerous instances I have found several members of the same strain attacked. Indeed, I have seen brother and sister, mother and son, etc., attacked with paraplegia at the same time.

I consider there exists in this breed a liability to a rheumatic diathesis, if I may be allowed to use such an expression. Time after time I have seen rheumatic symptoms precede the paraplegia, which is a pressure paralysis, brought about by a thickening of the spinal dura mater. If the rheumatic process attacks the dura mater in close proximity to the sensory roots of the spinal nerves, great agony is experienced (*vide* a paper by me on this subject in *The Veterinary Record*, July 16th, 1904). If, however, only the dura mater not in the vicinity

of the spinal nerves be affected, paralysis without any agony is encountered.

These cases usually respond to the treatment generally recommended for rheumatism. Aspirin (or acid acet. salicyl.) or sodii salicylas, and after a time potassium iodide are the best agents, either by the mouth or by ionization. Strychnine, Nux vomica, or electricity are useless; they generally make paraplegia due to pressure worse or incurable.

The second paragraph of "W. R. C." translation seems to me far-fetched if not contrary to fact Perhaps "W. R. C." will give your readers *his* reasons and *his* facts for doubting the greater prevalence of paraplegia in long-back dogs than in the short-back breeds?

NEW SKIN DISEASES IN THE DOG.

By Henry Gray, M.R.C.V.S.

On p. 72 of *The Veterinary Record*, July 29th, 1911, Mr. Livesey is reported to have stated at the last meeting of the Central Veterinary Society that he had encountered, during the last ten or twelve years, several cases of a peculiar skin disease in the dog, which had not been described or named. I believe this is contrary to fact. On reading Mr. Livesey's description, as reported, I consider his cases were none other than follicular mange, plus the bacillus of necrosis.

It is not always easy to find the follicle mite unless true yellowish pustules are present. In one case in my mind's eye three months elapsed before I could confirm my diagnosis of follicular mange by finding the follicle mite, and then only in one isolated pustule.

Tincture of iodine, biniodide of mercury ointment, mercurial ointment, pure creolin, or nitrate of silver have usually, in my hands, brought me success in such cases as described by Mr. Livesey.

TUBERCULOSIS IN THE HORSE.

Subject. Cart horse, six years old.

History. Owner paid 45 guineas for horse three months previous, and said it had gradually wasted away, I was asked to destroy the animal and make a post-mortem, but on arrival at farm found the animal had been dead some six hours.

Post-mortem. The whole of the mesenteric glands, right kidney, spleen, and right tubercle (the subject was a monorchid) showed characteristic signs of caseation and calcification, and were enormously enlarged, with the exception of the testicle which was atrophied and solid. The spleen weighed over twenty-two pounds.

James M. Richardson, M.R.C.V.S.

Deal.

VETERINARY MEDICAL ASSOCIATION OF IRELAND.

(*Concluded from p. 96.*)

SOME NOTES ON THE PASSAGE OF FLUIDS THROUGH THE STOMACHS OF RUMINANTS.

By Prof. Craig, M.R.C.V.S.

To the classical researches of Flourens and Colin we are indebted for our present knowledge of the physiology of the stomachs of ruminants. Both these investigators showed beyond doubt that all the solid materials pass after the first deglutition from the œsophagus only into the reticulum and the anterior portion of the rumen. From their experiments they also concluded that fluids and semi-solid material were carried in small proportion from the œsophagus directly through the œsophageal groove to the omasum and thence to the abomasum. The experiment on which they based their conclusions were the following:—

1. Flourens fed a sheep on some roots reduced to a fine pulp, and then immediately afterwards destroyed the animal and made a post-mortem examination. He found the pulped roots in large proportion in the rumen and reticulum, but also in appreciable quantity in the omasum and abomasum.

2. He also made a fistula in connection with each of the four stomachs and found that fluid escaped simultaneously from these openings whenever the ruminant was allowed or forced to drink some liquid.

3. Colin made a large fistula into the rumen in the left flank of an ox. In order to ascertain where the liquids passed from the œsophagus he inserted his hand through the fistula into the rumen as far as the œsophageal opening. He found that when the animal drank water that the latter entered in greater part into the reticulum and then flowed over into the rumen. Placing his finger in contact with the lips of the œsophageal groove he found them lightly drawn together, and felt a very small quantity of fluid trickle directly through the groove from the œsophagus into the omasum. This experiment he repeated in several oxen with the same result.

The chief objections to the conclusions drawn from these experiments are: Nos. 1 and 2 do not show that any fluids pass into the third and fourth stomachs through the œsophageal groove without mixing with the contents of the rumen and reticulum. To No. 3 it may be objected that the manipulation altered the normal physiological function of the stomachs and of the œsophageal groove.

Investigations in later years have been made with water tinted with some colouring agent, such as magenta

or fuchsin. These fluids have been administered in various ways; in drench, by probang, and with the animal standing or placed on its haunches and the head held back. Immediately after the water was administered the animal was killed and the contents of the stomachs examined.

Vryburg administered two or three litres of water, deeply coloured with fuchsin, by a stomach pump to four adult oxen. The drenching was carried out with the animals in the standing position and the long axis of the head kept horizontal. To two heifers at the Royal Veterinary College of Ireland half a gallon of water, deeply coloured with fuchsin, was given with the ordinary drenching horn; and to a bullock a similar amount of coloured water was administered by probang. A two-year-old bullock was first allowed a bucket of water and then drenched with two quarts of water coloured with magenta. A goat was given a drench of half a pint of water coloured with magenta. During drenching the latter animal was placed on its haunches and the head held back. The animals were destroyed almost immediately after the material was administered and an examination made of the stomachs. In all cases the colouring agent was found only in the rumen and the reticulum; not a trace had penetrated into the omasum and abomasum. The stain had diffused through the contents of the reticulum, but in the rumen it was present only in the solid food near the walls of the organ.

It might be objected to these experiments that they do not represent what takes place when the ruminant drinks voluntarily of water or the other fluids. At least, however, they show what occurs when medicinal or other agents are given in the form of a drench. These agents are diluted by the contents of the rumen and reticulum before they reach the omasum and abomasum.

Passage of Fluids from the first two Stomachs into the Omasum and Abomasum.

After a variable period the fluids pass from the rumen and reticulum into the third and fourth stomachs, probably by way of the opening in the reticulum. Vryburg allowed a cow to drink about a litre of coloured water and then destroyed it half an hour afterwards. He found the greater part of the fluid in the rumen, but a small quantity had entered the third stomach and stained the upper portion of the leaves of this compartment. The same result was also obtained on killing a heifer which had been given two litres of coloured water by means of an irrigator, half an hour previously. Three other adult cattle were destroyed, seven, eight, and ten hours after the administration of fuchsin solution. In the first case a little of the coloured solution had penetrated into the third stomach; in the second case the contents of the third and fourth stomachs were stained red, but the pylorus was not coloured; in the third case a small quantity of fuchsin had reached the pylorus and entered the duodenum. At the R.V.C.I. a goat was drenched with half a pint of water coloured with magenta and containing ten grains of strychnine, and died twenty-five minutes afterwards. The colouring matter was found in the rumen, reticulum, omasum, and at the entrance to the abomasum.

Absorption from the Stomachs of Ruminants.

The mucous membrane of the first three stomachs is similar to that of the mouth. The epithelium is thick, squamous and stratified, and not well adapted for the purposes of absorption. The fourth stomach is the true stomach of the ox. In the last experiment in the goat, symptoms of strychnine poisoning appeared in about twenty minutes after administration. Probably in that time some of the material had reached the abomasum and was absorbed.

Secretions from the Stomachs of Ruminants.

I have examined numerous sections of the walls of the first three stomachs and have never seen any glands in them. It is said that a few small mucous glands are present in certain portions of the rumen. These glands, if present, cannot however have much effect in increasing the fluid condition of the contents or lubricating their passage. The consistence of the ingesta depends upon the amount of fluid taken in by the mouth as such, or with food, and of the saliva swallowed.

Practical Deductions.

1. Since all fluids taken in by the mouth must be diluted by the contents of the rumen and reticulum, this dilution may interfere with the action of various medicinal agents in certain cases. This may account for the unsatisfactory results obtained in the treatment of parasitic abomasitis. It might, therefore, be advantageous in these instances to inject the vermicides directly into the abomasm through the abdominal wall. The guide line for this operation is the line of right asternal costal cartilages. The abomasum may be punctured in the ox immediately behind this line at any point within a foot of the xiphoid cartilage of the sternum.

2. Where the contents of the first three stomachs are abnormally dry, they may be softened, chiefly by water taken in by the mouth or by increasing the amount of saliva secreted and swallowed. The removal of the ingesta is effected by the muscular contractions of their walls. Purgatives, such as magnesium sulphate act for the most part on the intestines. They stimulate the passage of fluids into the lumen of the bowel by increasing osmosis, and the secretion of the intestinal glands. The mechanical distension of the gut with fluid provokes slight peristalsis. This increased peristalsis may be transmitted thence to the first three stomachs, and perhaps some of the fluid in the bowel may be carried forward to dilute the contents of the omasum, reticulum, and rumen. Stimulants to the muscle fibres are of the greatest service in producing the desired effect upon these organs. Thus it is that such agents as the Strychnine preparations, Nux vomica, and the Ammonia compounds prove very useful adjuncts to laxatives in cattle. It may be truly said that the combination of stimulants with a moderate dose of laxative will effect what a strong purgative of, say, Epsom salts, fails to produce upon the stomachs of ruminants.

Discussion.

Mr. P. J. Howard wished to congratulate Prof. Craig and Prof. Mettam on the fact that they had begun to pay attention to perhaps one of the most important matters that concerned the veterinary profession in this country. He did not think they had a lot to learn about digestion in ruminants. He would like Prof. Craig to remember that he must be careful in the deductions he drew from experiments on the sheep as compared with what went on in the ox. Though they were both ruminants in every sense and much alike in the arrangement of the stomach they were very different in the question of their natural lives. (Hear, hear.) It was a common thing to find sheep in various parts of Ireland that had never been know to have a drink of water, and they did well, and were perfectly healthy, whereas in the big cattle rearing districts it was of especial importance to have a sufficient supply of water His own experience had always led him to think that in giving fluids to the ox that the fluids went directly only to the rumen and reticulum, and probably a great proportion of the fluid remained in the reticulum. It was common in the West to have a good deal of treatment of murrain in cattle, *i.e.*, where they got severe constipation, and on some of these occasions they got ample

evidence that it would be an absolute impossibility for anything to pass through the abomasum, even if they used a force pump. The part would be as much like a football as anything, and it was quite common that this should be going on for a week before it was detected. He believed himself that nothing passed from the reticulum or rumen unless by the process of chewing the cud. He wished to ask whether, in these experiments, the animals had been induced to go through the ordinary process of chewing the cud before they were killed. Even the fluid contents of both stomach pass on in that way. He believed this from his experience of post-mortems on beasts that had died from murrain, in which they got the contents of the rumen and reticulum absolutely fluid, and the omasum parched. He hoped Prof. Craig and Prof. Mettam would help them to arrive at some better knowledge of these matters than they at present possessed. He wished to offer his thanks for the very interesting paper. (Hear, hear).

Mr. McKENNY said these experiments related to fluids. The natural process with the solids would be different, and the liquid experiments to a considerable extent would give them no information as to the solids. He would agree with Mr. Howard as regards the liquids. For many years past he had made a practice, when an animal was constipated, of giving after every dose of medicine three gallons of warm water—drench them with it, they could not get them to drink water sufficiently warm—and had had wonderful success by the treatment. He thought that success had been explained by the fluid experiments For almost every disease in the ox he ordered that the hot water should be given two hours after the dose of medicine whatever it may be, and to have this carried out he explained to the owner the necessity of it by saying the medicine would do absolute harm if it was not diluted afterwards with water. But his reason was to soften the contents in the omasum. That was his idea, and he believed that the fluids did pass into the omasum. He would like some experiments as to the solids. It was a subject well worth bringing up, and had been most interestingly dealt with, and could be turned to practical good. (Hear, hear).

Mr. A. WATSON remarked that one might have feared from the way the paper was titled that it would be most highly scientific, but on the contrary Prof. Craig had handled his subject in such a way as to make it understandable to the man in the street. Certainly similar thoughts occurred to him as occurred to Mr. Howard as to the contrast between sheep and cattle, for he thought he was right in saying that sheep as a matter of fact do not drink water. It was a symptom that they were unwell when they took to water. In their usual health they would be content with the amount of moisture in the pasture. He thought the matter of murrain was one that had a very real interest for every practitioner, Anyone who had treated murrain must be aware that it was futile pour purgatives into the cattle attacked, and how even with enormous quantities of purgatives they did not respond. Before he left practice he adopted the course of giving along with the purgative tincture of Nux vomica and a good dose of whiskey, in order to get the muscular coats of the stomach to respond, for in these cases they had undoubtedly paralysis of the muscular coats of the stomach. As meat inspector at the abattoir he came across a number of animals sent in to be slaughtered, supposed to be suffering from murrain. The ordinary symptoms looked for in murrain was the condition of the third stomach. If that was dry and hard it was supposed to be murrain, and that no quantity of purgative medicine would remove the obstruction whilst the paralysis existed, so they ought to combine nervine tonics and stimulants.

Another point was the question of absorption from the first two stomachs. If he took Prof. Craig aright, he seemed to think there was a very small absorption. The area was so big that they could certainly fancy there would be considerable absorption. He might be wrong, but he thought there ought to be less absorption from the rectum than from the rumen. ("No, no.") Why he said so was because in the case of yew tree poisoning, the leaves and small branches were only found in the rumen, and yet death occurred from the poisonous alkaloids. As to the characteristic post-mortem appearances supporting the diagnosis of the pre-existence of murrain, it was a common mistake with practitioners to think because the mucous coats were adherent to the ingesta that murrain must have existed. They never paid any regard to the time the ingesta was left in the stomach before the post-mortem. If it was some time it would become adherent, and it was not a symptom of pre-existing disease at all. (App.)

Mr. WILKINSON: Do you think those changes occur after death?

Mr. WATSON: Yes.

The PRESIDENT: It is uncertain, pure and simple.

Mr. HOWARD: It will occur in two or three hours.

The PRESIDENT: Yes.

Mr. WATSON, in conclusion, acknowledged his generous appreciation of the great service Prof. Craig and Prof. Mettam had rendered them by bringing forward that most important subject in that delightful manner.

Mr. L. M. MAGEE thought that in order to have an accurate and natural test they would have to allow the beast to drink of his own free will, and then slaughter immediately afterwards. He had no data to go on, but he was of the opinion that if, for instance, a bullock was very thirsty and they gave him a couple of buckets of water. a considerable amount of it would pass directly through the omasum into the abomasum. If all the water flowed into the rumen he would not derive benefit from it, or have his thirst quenched, for a considerable time, as that stomach had practically no absorbtive powers That could hardly be said to be a good provision of nature.

Although the omasum or "book" might be packed with food, water could still pass through that compartment by means of the groove which runs beneath the free edges of the leaves, and which forms a direct path from the reticulum to the omasum for fluid and finely divided food. When the layman made a post-mortem examination and found the food between the leaves dry, he naturally concluded that it was the cause of the animal's death, whereas in reality it was a normal condition. There were two conditions generally referred to as murrain—dry, and red murrain. The one under consideration was dry murrain. He thought they did not resort sufficiently to the administration of medicine by the hypodermic syringe. They would get better results if they did.

With regard to Mr. Watson's remarks as to absorbtion, Mr. Magee said the rumen was simply a reservoir and there was practically no absorbtion from it. As proof of the wonderful powers of absorbtion of the small bowel he called to mind when he was a pupil with Mr. McKenny, a case of tetanus that for over a month took no nourishment by the mouth except water, and received all its food per rectum, and when the horse recovered he had lost very little of his condition.

Lieut.-Col. STEEL did not think the question of absorption from the rectum admitted of any doubt. He instanced a case in which food was given for six months entirely by injection. That settled the matter at once.

Prof. CRAIG thanked the members for the reception given to the paper. Replying to points raised, he said Mr. Howard in his remarks apparently thought they were paying more attention to the sheep than to the ox.

Mr. HOWARD: Not at all. I simply threw out the

suggestion that you could not be safe in drawing conclusions as regards the ox from experiments on the sheep.

Prof. CRAIG said most of the deductions that were made were obtained from experiments on the ox. Mr. Howard had said he thought unless rumination occurred no fluid, or very little fluid, would pass from the rumen or reticulum into the omasum or abomasum. The experiments he had given were on animals which did not ruminate during the time of experiments, and in the ox, where a sufficient interval had elapsed before the animals were destroyed the fluids had passed from the first two stomachs into the third and fourth. Mr. Magee made a criticism with reference to what would occur if the fluids were taken up voluntarily by the ox. He had just read an experiment with reference to that particular point. It was made by Vryburg, whose observations agreed with their own. The reason he did not refer to it in the first instance was that half an hour had elapsed before the animal was destroyed. The result was—this was his (Prof. Craig's) explanation—that the fluids had passed just as in the case where the animal was drenched, but in the interval after the fluids had been taken in, and before death some had passed from the recticulum into the omasum. If one would judge from that experiment alone one would take it that in natural circumstances the same route was taken, no matter whether the fluids were taken voluntarily or given in the form of a drench. In one case he gave a bucket of water to the animal, and then drenched the animal with the fluid, and they passed, just as in the first instance, into the rumen and recticulum. Mr. Howard referred to the condition of the omasum found commonly in cases of murrain—but also in normal cases—and said that the condition of the omasum was such that no fluids could pass. There was, however, a distinct open run on the floor of the omasum.

Mr. HOWARD: That brings out what I said, that what passes into the omasum goes along that vessel and not by absorption.

Prof. CRAIG said the opinion he held was that murrain was frequently due to some defect in the muscular action of the stomachs of the ox, and that this defect was overcome by the action of stimulants. With regard to the question of absorption from the stomachs of ruminants, the only evidence he could bring forward was that stated in the paper in referring to the nature of the epithelium and the experiment with strychnine. In explanation of what took place in yew poisoning, he considered that sufficient time elapsed between ingestion and death to allow of the passage of the toxic materials from the rumen and reticulum into the abomasum, there to be absorbed. If these stomachs were examined after death it would be found that a large quantity of yew was present in the rumen and reticulum. This must have taken a considerable time to devour. This interval would permit of the solution of some of the active agents in these stomachs and their passage to the omasum and abomasum, where they would be absorbed. Then the symptoms of poisoning would be set up and death result.

NOTES ON THE ACTION OF ESERINE.

By Prof. A. E. METTAM, M.R.C.V.S.

The objects of the experiments was to determine the effects of eserine upon the contents of the alimentary tube when the latter was not surcharged with ingesta; or, to put it differently, to ascertain if eserine would act upon the alimentary tube and its contents as it is known to act in cases of stoppage or obstruction. It has been stated that eserine only exerts its effects when the bowel is filled with ingesta, and that when the tube is relatively empty its effects are little evident or may be entirely wanting.

Messrs. Parke, Davis and Co. kindly supplied me with physostigmine salicylate for purposes of the experiments.

First experiment.—Black, aged gelding, received two grains of physostigmine salicylate into the jugular vein at 9.55 a.m.

The animal defæcated at 9.57 apparently a normal motion.

Fæces was also passed at 10.26 a.m., 11.2 a.m., and 11.35 a.m.

Flatus was passed at 11.45 a.m., but there was no pain and no straining.

Fæces passed at 11.51 a.m., 12.0 noon, the fæces being soft and pultaceous. There never was any sign of inconvenience or uneasiness or any other indication of colic.

The animal was killed at this time for dissection.

Chestnut gelding, aged, received 2½ grains of physostigmine salicylate into the jugular vein at 10.8 a.m. The animal at no time showed any pain.

Fæces was passed at 11.13 a.m.

" " " 11.42 "
" " " 11.56 "
" " " 12.10 afternoon (liquid)

12.30 p.m. the fæces were softened. The animal was uneasy and strained occasionally as if it had had an enema.

Action of the physostigmine passed off about 1 p.m., the animal becoming quiet, and no more fæces were passed while the animal was under observation.

Both animals chumped the jaws, the movements commencing about half an hour after receiving the alkaloid There was no salivation, save perhaps in the black gelding, where there was possibly some extra secretion of saliva, but nothing of consequence beyond merely mentioning the fact.

Brown gelding, aged, received into the jugular vein three grains of physostigmine salicylate in 12 c.c. of water. The animal had a well marked jugular pulse. The injection was made at 1 o'clock (afternoon). Immediately afterwards the animal appeared dazed, extended the head, and crouched. He then fell forwards and struggled violently. He was much distressed. There was violent muscular spasms and a hippocratic grin. The pupils were widely dilated. The animal lay for some time, occasionally struggling, and had violent paroxysms of spasms. At 1.30 there was much tenesmus and passing of softened fæces; 1.32 more fluid passed; 1.34 fæces passed; 1.36 straining with passage of liquid fæces; 1.38 straining and passage of fæces; 1.40 straining; 1.41 straining and passage of liquid fæces; 1.43 ditto; 1.44 tenesmus; 1.46 ditto, fæces passed; 1.50 great quantity of egesta passed, more than all previous motions collected; 1.54 violent straining, passage of liquid fæces; 1.55 ditto; 1.58 great evacuation of liquid fæces; 1.59 involuntary flow of liquid fæces; 2.0 got up and passed liquid fæces; 2.1 large quantity of liquid fæces; 2.5 straining; 2.6 ditto; 2.7 ditto, and passage of liquid fæces; 2.8 colicky pains, flatus and fluid; 2.9, 2.10, 2.14, 2.16 straining, passage of liquid fæces, colic; 2.18 flatus; 2.19 very violent straining and passage of much fluid; 2.21 ditto; 2.22 straining, 2.24 ditto and flatus passed.

Straining continued, but less frequently, till 3 p.m., pulse at this time 50. The animal was somewhat dull, but there was no pain or muscular spasms.

Four days later the animal received at 11.35 a.m. 1 grain of physostigmine salicylate dissolved in boiled water. Injection was made as previously into the jugular vein. The object of the second experiment with a smaller dose of the drug was to decide if the excessive action of the previous dose was due to any idiosyncrasy, or perhaps to the heart lesion.

Animal immediately became uneasy, and there were violent muscular spasms of abdominal wall. Attempts to evacuate occurred within first five minutes, and the animal strained like a mare at parturition. There was

dilatation of the pupil within ten minutes. The animal made preparation to lie down but refrained (colic). It continued to strain and groan, and passed flatus. There was also regurgitation of air into the bowel. The animal defæcated at least eight times during the half hour following the injection, and the fæces became more and more softened, unformed, and like cow dung. The spasms after this became less and less frequent, and eventually passed off. At 3 p.m. the animal was in its usual health. The jugular pulse noticed at the first experiment was still present.

On the same day, and at the same time, the chestnut gelding which got 2½ grains into the jugular vein as above mentioned, also received 1 grain of the physostigmine dissolved in boiled water into the jugular vein. The animal became uneasy, but not nearly so much so as the brown gelding, and defæcated twice soon after receiving the dose. There was again champing of the jaws. Fæces were passed on three occasions within twenty minutes after the injection. There was no groaning, no tenesmus as in the brown gelding. Fæces passed were firm. The animal half an hour later was apparently in its usual health. No dilatation of the pupil noticed. At 3 p.m. animal found standing to all appearances perfectly normal, with a soft unformed motion behind him.

The conclusions are that physostigmine acts upon the bowel (muscular coats) even when there is no great excess of ingesta.

Physostigmine acts upon the heart, and that it is better when using this alkaloid to examine the state of the heart, this is indicated by the alarming symptoms exhibited by the brown gelding when it received one grain into the venous system. It is interesting to compare the result of this injection with the effect upon the chestnut gelding. The dilatation of the pupil is interesting and unusual.

Physostigmine, when applied locally, causes contraction of the pupil; atropine, its antagonistic, causing dilatation.

Discussion.

Mr. L. M. Magee considered the notes were a valuable contribution to veterinary literature. For the last eight years he had a good deal of experience with eserine and he was convinced that it was a drug that was not used half enough, especially in cases of colic from impaction. Of course, there were many conditions that influenced the advisability of its administration. To his mind it was simply criminal to think that colic, no matter what its cause, could always be treated on the same lines. The custom of sending large bottles of colic medicine, composed mostly of sedatives, to their clients for emergencies should be condemned. The causes of colic were very numerous and their diagnosis often extremely difficult, and one was sometimes justified in waiting half an hour or more before deciding on a line of treatment. Once he had made up his mind that the case was a suitable one he did not hesitate to administer eserine or arecoline. The thing to pay attention to was the pulse. If the pulse was weak these drugs were contra-indicated. For several years he had been a disciple of Caulton Reeks, and was a firm believer in the stimulant treatment of colic. He was very proud of his little veterinary library, but the two books he valued most were Reek's "Common Colics of the Horse," and "Diseases of the Horse's Foot" by the same gifted author.

Mr. McKenny asked Mr. Magee which of the two he really believed in—waiting and carefully diagnosing the case and adopting treatment accordingly, or adopting Mr. Reeks' treatment of stimulants? Personally he (Mr. McKenny) used stimulants. He first diagnosed his case and treated it accordingly, but he always used stimulants.

Mr. Howard said he had been much disappointed in the action of eserine where you had absolute impaction, and he confined his use of it to where there was flatulence to be got rid of.

Mr. W. H. Wilkinson said he had made considerable use of eserine, and he agreed with Mr. Magee it was one of the most valuable drugs that they had, but it wanted to be used with extreme care. He had stopped giving even two grain doses. He preferred to give a grain now, and one at an hour's time, otherwise they got alarming symptoms.

Tuberculous Pleurisy in a Dog.

By Profs. Craig, Mettam, and O'Connor.

The Subject was a mongrel collie dog about 4 or 5 years old.

The History given was that the animal was noticed a few days previously to be affected with dyspnœa, and that the distress in breathing was increasing.

The Symptoms shown when the patient was brought to the College on the 17th January last were the following. The head was stretched out, the mouth kept continually open, the saliva escaping in strings from the angles. The respirations were very much distressed and numbered about 40 per minute. This distress was greatly increased by movement and manipulation. The condition of the dog was very poor and he was not inclined to take any food. He coughed occasionally and there was a slight yellowish discharge from the nose. The pulse was 120, the mucous membranes were slightly injected, the temperature 104°. No lung sounds could be heard on ausculation of the right side of the chest, crepitation or crackling sounds were heard on the left side, especially near the lower border.

The treatment consisted in the application of a stimulating liniment to the chest wall and a cotton wool bandage, and the exhibition of stimulant and internal antiseptics including quinine sulphate, digitalis, and nux vomica. Nourishing food was recommended, but the dog refused nearly everything that was recommended. Antiseptic inhalations were also given. The treatment was kept up for a fortnight, but the animal became gradually worse. The temperature came down to 102°F. Emaciation was very pronounced. He died on the 2nd February, and a post-mortem examination was made 10 hours after death. On opening the chest, a light yellowish limpid transparent liquid escaped from the right pleural sac. This was estimated at about 3 pints. The pleura was thickened and presented numerous granulations on the costal portion, especially over the intercostal spaces. The right lung appeared as a small knob at the upper portion of the right pleural sac. It was not one-third the size of the left lung. It was closely adherent to the parietal pleura along its upper border and throughout the inner surface. The lung was collapsed, solid, bright red on section, and sank in water.

The left lung was emphysematous along its lower border and in its spiral lobe. The outer surface presented a large scar-like thickening of the pleura. The heart was very muscular. All the other organs were free from naked eye lesions. Some of the exudate from the left pleural sac was centrafugalised and films were made from the sediment for microscopic examination. Numerous endothelial cells and lymphocytes were present in the films. Several round and fast bodies were found, some inside the cells and a very few tubercle bacilli discovered after a very careful search.

The chief interest in this case lies in the absence of any tuberculous lesions, save pleurisy with effusion.

The second case was that of a foxterrier about four years old received into the College Clinic by Professor O'Connor. The dog had been in possession of the owner for two years, and according to his statement had been in good health apparently until a week before.

Examination of the patient showed him to be in a serious condition, indeed in a state of collapse. The temperature was 99 F. Diagnosis made was pleurisy and pneumonia of the left side. The animal died shortly after admission.

Post-mortem examination. The left pleural sac was filled with fluid clear and yellowish in colour. The left lung was collapsed and firm. Cavities were present in the lung, such as would contain a pea, and these cavities contained pus in which acid-fast bacilli were demonstrated in clumps. Large areas of the lung substances were necrosed, refused to stain in sections though plenty of bacilli could be demonstrated in practically pure culture. On the surface of the pleura was an exudate, and there were tubercular granulations low, flat, and yellowish in colour. The pericardium was adherent to the heart, but fluid was absent from the pericardium. An emulsion was made from the lung and inoculated into a guinea-pig which developed tuberculosis.

These two cases illustrate a by no means uncommon condition in both dogs and cats. From the post-mortem findings infection must have been present for some time, and yet the history obtained does not indicate that the owners noticed anything seriously wrong until just prior to the animal being brought into the clinic. Another interesting point is the excessive amount of fluid present in the pleural sac and the remarkable collapse of the lung, next the absence of lesions usually associated with tuberculosis. In the second case the condition of the pleura suggested tuberculosis, and the condition of the lung strengthened that opinion, but nevertheless this case was not one which conformed to the classical description of tuberculosis in the lower animals. A further interesting fact is the absence of lesions in other viscera. I have noticed for a long time the great tendency for tuberculous lesions in the lungs of carnivora to soften and break down and to give rise to the formation of cavities. The size of these cavities of course varies but they invariably contain a quantity of glassy pus, often extremely rich in acid-fast bacilli.

I have observed this condition not only in dogs and cats but also in the larger carnivora of the Zoo, the lion, leopard etc. In the first case we were convinced that we had a case of tubercle, but it was only after centrifugalising the fluid and making films of the precipitate and staining that an absolute diagnosis could be made. As it has been remarked, the bacilli were few and far between, but they were observed in phagocytes.

It is very probable that a very large percentage of cases of pleurisy both in dogs and cuts are due to tubercular infection, and that a very close search is necessary before the organism may be found. It is not easy further to say where the organism has gained entrance, though it is very probable (I am aware that many will not agree) that the infection is through the alimentary tract. I have in remembrance a post-mortem examination I made upon a cat. It had been coughing for some time, and on examination it was found to be very thin. It was a Persian, and the great and rapid loss of condition had not been suspected. A very remarkable one-sided pleurisy was found, with a collapsed lung containing small cavities containing pus, with numerous tubercle bacilli present. A prolonged examination of the other viscera revealed a softened caseous centre in a mesenteric gland, which was judged to be earlier than the lung lesions and as indicating that infection had occurred through the alimentary tract. In this case contamination from a human source must be excluded, and infection by inhalation as quite impossible. Nor is it at all possible that infection occurred through the respiratory passages in the larger carnivora already mentioned—they are housed separately, they are not in contact with man, and infection is only possible through the alimentary tract. The same may be said of tuberculosis in the raccoon, in which animal I have seen very extensive tuberculosis of the lungs with little evidence of infection in other viscera. I believe that the evidence for infection by inhalation among the lower animals is insufficient, and I am satisfied from the very numerous cases of tuberculosis I have seen in very many species of animals that infection by the alimentary tract is the rule.

Discussion.

The President said the interesting point in this subject was that in many cases of pleurisy they got in dogs tuberculosis was not suspected. There was nothing to lead one to think there was tubercle He was convinced that a large number were tubercle, and he would be very glad if members when they came across cases of pleurisy would bottle some of the fluid and send it to him. Dogs and cats were brought into such close relation with human beings that they must make as rapid diagnosis of tubercle as possible. That was the reason they brought the matter forward. Tuberculosis was extremely common in dogs, much more common than many of them imagined.

Mr. McKenny said there was another view that could be taken of this, and that is, if an animal died and it could be found to have tubercle bacilli could that dog be said to have died from tuberculosis? Could the dog not die from pleurisy? As regards the facts produced it appeared to him it could not be said that what the animal suffered from was tuberculosis. It was only that tubercle bacilli were found in an animal that died from pleurisy.

The President: The point is whether tubercle bacillus was the cause of the pleurisy.

Mr. McKenny said he very much valued the information derived from the study of bacteriology, but he considered that the bacteriologist who merely formed opinions relative to disease from microscopic examinations retarded the practical importance of the subject. The fact that a certain bacteria existed in an animal does not establish that if the animal died the bacillus was the cause of death. For example—suppose an animal meets with an accident, say fracture of the skull, and dies from same, but on post-mortem examination it was found that it had tuberculosis, surely it would be absurd to state that because on microscopical examination tuberculosis bacilli were found, that it was the cause of death, and in the case cited, the link between the pleurisy from which the animal died, and the small quantity of bacilli, resembling those of tuberculosis which on careful examination were revealed, should warrant the definite conclusion that this exceptional case as described was one of pleuretic tuberculosis. Of course the case was one worth recording, and Mr. McKenny felt indebted to Prof. Craig for having reported it, as no doubt it was of much interest and probably, taken with other similar cases, would be of practical use, but it would be premature and unwise to form any definite opinion as to the cause of the pleurisy in this case.

Mr. Magee thought the point Mr. McKenny was making was whether it was a mixed infection.

Prof. Craig: There was nothing but tubercle bacilli.

Mr. Mckenny: Am I to understand that if you have a dog suffering from pleurisy, and you find tubercle bacilli, it is that which has caused the pleurisy.

The President: That is the inference. Tubercle bacillus as a cause of pleurisy is more frequent than people imagine. In most cases of pleurisy the cause is not known. We say that the tubercle bacillus is more frequently the cause than is imagined. In cases we have looked into we have found tubercle bacilli.

Report on Cases of "Roarers."

Prof. O'Connor presented the following report on cases of "roarers" operated on before members of the Association.

No. 1. Aged chestnut gelding, a splendid hunter, a loud roarer. Had a tube in his trachea and it was in consequence of this tube "becoming troublesome" that the owner had him operated upon for roaring. The tube was removed at the time of operation. On opening the larynx the left arytenoid was seen to be completely paralysed. The left ventricle only was stripped.

Result. Stenosis of the trachea occurred when tracheotomy had been performed causing dyspnœa, and the owner had the horse destroyed.

No. 2. Aged brown gelding, a good hunter, a distinct roarer. Left arytenoid completely paralysed. Left ventricle only stripped.

Result. A complete success. Only a faint noise can be heard when quite close to the animal during a gallop, whereas prior to the operation the roaring could be heard at a long distance.

No. 3. A 5-year-old-hunter, making a noise. Left arytenoid paralysed. Left ventricle stripped.

Result. Operation successful. Hunts and stays well, only making a slight noise when starting to gallop.

No. 4. A 4-four-year-old brown thoroughbred stallion making a noise. Both arytenoids moved equally but, it was thought, more slowly than normal. Both ventricles were stripped.

Result. Not improved two months after the operation, when he was sold and lost sight of.

No. 5. Bay gelding making a noise, left arytenoid moving feebly. Stripped the left ventricle.

Result. The horse, I was informed, became incurably lame, was not tried, and was got rid of.

No. 6. Bay mare, a trooper, making a noise. Operated on both ventricles by the trephine method. By this method both thyro-aryteneid muscles were exposed and were not atrophied.

Result. After two months not improved, and grunts now in addition to roaring.

Nos. 7, 8, 9. Special reports about these giving the history of the horses before and after the operation, for which I am indebted to Mr. McKenny. Nos. 7, 8 are the cases operated upon at the last Veterinary Medical Association of Ireland held on Nov. 29th, 1910.

No. 7. Bay gelding, four years old, 16-3 hands, flat ribbed, long delicate neck, very thin, unthrifty appearance, visible mucous membrane pale yellow, pulse soft and large, respiratory sounds, upper portion of lungs loud, lower portion crepitating.

History. Got by a "whistler," a large number of whose stock became "whistlers"; out of a sound-winded mare, dam of three other sound-winded horses, but were sired by other horses believed to be sound in wind.

The horse was trained at three years old, and was then sound, afterwards suffered badly from strangles, and ever since was a bad "whistler," and soon became distressed when galloped.

The horse was put out to grass after the operation, and has not yet been removed, but the owner reports that when the horse gallops, he can hear him making a hissing noise, but it is not the sharp distinct whistling noise that it made previous to operation.

No. 8. A bay gelding, six years old, 15-3 hands, good neck and well ribbed. A bad grunter, and made a very distinct whistling noise when galloped, but did not easily become distressed. Bought by a dealer without any history; auscultation revealed no abnormal sounds. Operation most successful, the whistling noise being completely removed, and the horse remained a good stayer.

No. 9. A black stallion, 11 years old, got by a sire whose stock are well known to be very good and sound in every way. Up to ten years old this horse remained sound; he then suffered from a severe attack of influenza accompanied with a large submaxillary abscess. When he had sufficiently recovered to be exercised, it was noticed that on becoming excited, he made a snoring noise. He was given Iodide of potass. with the view of causing absorption of any thickening of the mucous membrane and abnormal exudation remaining about the throat. At the expiration of three weeks of this treatment he was much better, the Iodide of potass. was discontinued and Liquor arsenicalis was given in half ounce doses three times a day, mixed with two wineglassfuls of cod liver oil, and given with scalded oats; he then was put to his ordinary work, he made no noise when going slowly, but when going fast made a peculiar hissing noise in both the inspiration and expiration. At the end of another fortnight dram doses of powdered Nux vomica and Sulphate of iron were given in place of the Liquor arsenicalis; this was continued for another fortnight, and alternately these were given as before stated. For three months his work was continued; medicinal treatment was discontinued for two months, at the expiration of which similar medicinal treatment as before stated, was repeated for another three months, during which time the horse occasionally suffered from slight colds, that is, coughed a little, and had a slight watery discharge from the nose. On each of these occasions the noise was more easily produced than usual, and assumed a character more like whistling, that is, it became shriller, and more marked in the inspiration than in the expiration, but it always remained more like a horse suffering from a cold than a pure "whistler," which I hold is quite a different sound. The noise made by a true "whistler" is, as the name indicates, a whistle, and is only heard in the inspiration, and the sound in the expiration is soft.

At the end of about eight months this horse was in strong work, and the day after an extra hard day it required to extend him for a long distance before the noise could be heard: it did not stop him. He then suffered from a severe cold and was laid up for three weeks: he was again gradually got into good working condition, but the noise was as bad as after he had suffered from the submaxillary abscess, and it was determined to remove the membranes from the laryngeal ventricles. Previous to the operation the lungs were examined and found to be sound.

When the horse was cast for the operation and during the administration of the chloroform, the jugular veins became enormously distended and pulsated; he was chloroformed cautiously and it took a long time to get him under its influence, eight ounces of chloroform had to be administrated.

When the larynx was first opened we (three veterinarians) agreed that both arytenoid cartilages were acting; however, after a short time one said he thought the left cartilage was not acting as well as the other, and another stated that he thought there was a slight difference, and the third said he was of the opinion both were the same. The skin wound was made not quite so long as usual. The horse got up before he had completely recovered from the chloroform, staggered and fell heavily, and the breathing became very distressed; however, he was held down for fully twenty minutes, and when he got up he at once ate a mash of bran, and seemed no worse for his tumble, but his breathing was very loud and distressed; for the next five days be partook of no food and his breathing became so much worse that it seemed almost imperative to perform tracheotomy. On the sixth day his lungs became affected, he received some fever drenches, and his sides were stimulated with

mustard. Three hours afterwards he ate a small mash of bran, and slowly made a good recovery. However, up to the present, five months since the operation, the noise is no better than it was before the operation.

No. 10. Aged bay hunter gelding, a splendid hunter a loud roarer. Stays an ordinary hunt well, as on account of his big stride he is seldom fully extended, but when the hunt is very fast he shows distress. Both ventricles operated upon. The left arytenoid completely paralysed. Not yet tried.

Remarks. In no case did a horse die as the result of the operation. Some of the cases showed accelerated breathing for a few days after the operation, but No. 9 was the only horse which showed evident distress and decided dyspnœa lasting for five days after the operation. No. 10 was not affected in the least in his respirations at any time after being operated upon. The conclusion I have come to from the foregoing cases is that when the arytenoid is undoubtedly paralysed the operation is likely to be successful, but if the cartilage is not paralysed a successful result need not be expected. It is evident that many horses make a noise from other causes than paralysis of the arytenoid cartilage, and the noise is called roaring or whistling for the want of a better name. Up to the present I am sure many such cases have been operated upon as roarers or whistlers, and have been numbered as examples of failures of the operation. I feel convinced that the reputation of the operation is being damaged in this way.

No. 6 is a striking example of a horse making a noise without paralysis of the arytenoids, for both the thyro-arytenoid muscles were dark red and fleshy in this case, showing that they were not atrophied from paralysis. The loud grunting noise made by this horse when tried about three months after the operation was so extraordinary, resembling somewhat the roar of a lion, that it was thought there was some abnormal thickening in the larynx at the seat of operation. Consequently the larynx was opened in the hope that something might be done to remedy the defect—if present. When the interior of the larynx was examined the ventricles were found beautifully obliterated, the arytenoids standing well out of the lumen, and the mucous membrane throughout was as smooth as if nothing had been done to the larynx. There was no thickening of the thyroid cartilage either inside or outside the larynx. The roaring in this case was evidently not of laryngeal origin, as there was nothing in the larynx to account for such a noise.

Discussion.

Mr. L. M. Magee said he had operated on a great many roarers and whistlers. In some cases he had stripped only one ventricle and in others both. He had had successes with both methods. One of the first horses he operated on was about the worst roarer he had heard. He only stripped about half as much of the left ventricle as he now takes away, and the horse came perfectly sound. It was difficult to know whether there was any advantage in stripping both ventricles when apparently only one vocal cord was affected.

He had had a great many successes with the operation, but of course he had failures too, but not many. If the horse was not sound afterwards he was generally greatly improved. Most of his failures were when he first commenced to do the operation and did not always strip the ventricle properly. He could not recall a case where the vocal cord was paralysed, and that when he removed the mucous membrane satisfactorily that the horse did not become sound or greatly improved. It was a difficult operation and one that required great experience and practice to perform properly. He was firmly convinced that the operation was a good one and had come to stay. In operating through the thyro-cricord ligament without cutting any of the cartilages, Prof. Hobday had revolutionised the operation.

He would like to make a remark on the attitude that many of the profession had taken with regard to the operation. It was very unfair for a man who had never done the operation, or perhaps never seen it performed, to condemn it and say there was nothing in it. If a man couldn't do it, or hadn't the pluck to try it he should not adopt such a dog-in-the-manger attitude. By proceeding on such lines very little advance could be made in their profession. (Hear, hear.)

The Hon. Sec. pointed out that at the next meeting Mr. Craig would give them a paper on "Roaring and Whistling," and he desired the assistance of members to obtain the trachea and larynx of horses that had been said to make a noise during life. Mr. Watson said he was perfectly certain no paper could be suggested that would be productive of such spirited discussion as a paper on roaring and whistling, and he urged members to assist Mr. Craig to obtain the materials.

A vote of thanks to the President concluded the meeting.

Experiments on Living Animals.

The total number of experiments performed on living animals in England and Scotland during 1910 by persons licensed for that purpose was 95,731. A report issued by the Home Office [219] shows that this exceeds by 9,454 the number of experiments performed in 1909.

From a classification of the experiments it appears that the vast majority of them—namely, 90,792—were not of a serious character, and did not require the administration of anæsthetics, being attended by no considerable, if appreciable pain. The remainder, 4,939 in number, included 2,942 experiments carried out under the provision of the Act that the animal must be kept under an anæsthetic during the whole of the experiment, and must, if the pain is likely to continue after the effect of the anæsthetic has ceased, or if any serious injury has been inflicted on the animal, be killed before it recovers from the influence of the anæsthetic. In 1997 experiments the initial operations were performed under anæsthetics, from the influence of which the animals were allowed to recover. The operations are required to be performed antiseptically, so that the healing of the wounds may, as far as possible, take place without pain. With regard to the 90,792 experiments performed without anæsthetics they were mostly inoculations, but a few were feeding experiments, or the administration of various substances by the mouth or by inhalation, or the abstraction of blood by puncture or simple venesection. The number of experiments performed in the course of cancer investigations was 49,662.

The number of persons licensed to make the experiments was 542, but 147 of the licensees performed no experiments. Tables are published which, the report observes, afford evidence that the licences and certificates have been granted only on the recommendation of persons of high scientific standing, and also that the licensees are persons who, by training and education, are fitted to undertake experimental work and to profit by it.

A separate part of the report relates to Ireland, where there were 254 experiments, performed by 16 licensees. *The Times.*

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DISEASES OF ANIMALS ACTS 1894 TO 1910, SUMMARY OF RETURNS.

Period.	Anthrax. Outbreaks Confirm'd	Anthrax. Outbreaks Reported	Anthrax. Animals Confirm'd	Anthrax. Animals Reported	Foot-and-Mouth Disease. Outbreaks	Foot-and-Mouth Disease. Animals.	Glanders (including Farcy) Outbreaks	Glanders (including Farcy) Animals.	Counties Affected Animals Attacked	Sheep Scab. Outbreaks	Swine Fever. Outbreaks.	Swine Fever. Slaughtered. *
GT. BRITAIN. Week ended Aug. 5	11		12				3	3		2	46	466
Corresponding week in 1910		17		21	1	1	6	12		3	26	225
Corresponding week in 1909		18		23			8	18		1	45	454
Corresponding week in 1908		18		23			15	32			28	195
Total for 31 weeks, 1911	523		651		7	420	117	294	London 3	305	1614	18701
Corresponding period in 1910		906		1099	2	15	217	661		329	910	8239
Corresponding period in 1909		825		1103			346	1294		464	1143	10186
Corresponding period in 1908		698		940	3	112	505	1558		633	1373	7414

Board of Agriculture and Fisheries, August 8, 1911.

	Parasitic Mange (outbreaks)											
IRELAND. Week ended Aug. 5	...	...	...	...	...	...	1	1		4	77	
Corresponding Week in 1910 ...	...	...	...	...	...	...	...	3		2	73	
Corresponding Week in 1909 ...	...	...	...	...	...	...	1	...		2	11	
Corresponding Week in 1908 ...	...	...	...	...	...	...	...	...		2	9	
Total for 31 weeks, 1911 ...	6	7	...	...	2	3	45	246		80	1459	
Corresponding period in 1910 ...	5	8	...	...	1	2	43	344		67	1626	
Corresponding period in 1909 ...	3	8	...	...	...	...	62	305		75	1322	
Corresponding period in 1908 ...	5	8	...	...	...	...	26	271		126	2697	

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Aug. 5, 1911

NOTE.—The figures for the Current Year are approximate only. * As Diseased or Exposed to Infection

Royal Commission on Mines.

THE HORSES AND PONIES.

At the 85th sitting of the Commission, on December 13th, 1910, evidence was given by Mr. THOMAS EMERSON FORSTER, managing-director of the Cowpen Coal Company, Limited, working collieries in the neighbourhood of Blyth, Northumberland, producing upwards of 1,000,000 tons per annum, and employing about 400 horses and ponies. Describing the system of keeping the horses, he said: The whole stud is under the charge of a properly qualified veterinary surgeon, who makes an examination of the underground stables and ponies at each pit once a month, and a special examination of each pony a fortnight later. He is responsible for the general welfare of the stud, and stops any pony from working if it is, in his opinion, unfit to do so, reports any irregularity, defects in stabling or food, suspected cases of cruelty, etc., to the resident manager. He also makes a special report once a fortnight to me, as managing-director, in which all cases of illness or accident are set out, as well as the result of his examination of the ponies. He attends at the colliery office with this report, the resident manager and underground managers being present at the same time, so that any points arising out of the report can be at once inquired into thoroughly. His report also contains detailed particulars of the amount of food-stuffs consumed at each colliery, showing the quantity used per animal. The purchases of food are specially made by me, and every care is taken to secure the best obtainable. At each colliery a head horsekeeper is responsible for the horsekeepers doing their duty, and seeing that the veterinary surgeon's instructions are properly carried out. He reports to the manager of his particular pit all cases of injury or cruelty or unfit ponies. It is his duty to see that the proper quantity of food is sent down for the stud under his charge, and that it is properly divided out by the horsekeepers. Each horsekeeper has, on an average, about 20 ponies under his charge, the actual number varying according to the position of the stables. These men go down in time to see that the ponies are fed and harnessed before going to work, and, after clearing up the stables, return to the surface until they go down again to receive water, and to feed and clean the ponies on their return from work. They have to report any injury and stop any pony from going to work if they think it unfit, until the head horsekeeper or veterinary surgeon has examined it.

The shoeing is done by competent shoeing smiths, who attend the different stables every day and replace or refit shoes. The saddlery is kept up by a saddlery contractor at a fixed price per pony. It is therefore to his advantage to see that good material is used, and the leather part kept properly oiled, and, as rubbing against the roof wears the harness, he is not long in complaining to the manager should any occur. All collars are fitted to each pony.

The ponies get two meals a day, and food is kept at the flats and landings for them during their shift. The average pony of about 12 hands gets about 14lb. of food per day, consisting of chopped hay, maize, beans, and oats, mixed in proper proportions. The putting and driving ponies work 8 to 10 hours, and are never more than 11 hours a day out of the stables unless under very exceptional circumstances, and in that case, never twice running. A stock of spare ponies is kept at bank so

that any additional ponies can be supplied at once. All new ponies are kept at least a fortnight before being sent underground, in case of infection. Before starting work they have a preliminary training at bank, and for the first week or so underground they are under the special care of reliable men or older boys.

The system I have outlined is, generally speaking, the same as that in use at other collieries in the neighbourhood, and has been practised at the Cowpen Collieris for upwards of 40 years. I have heard the allegations of cruelty to pit ponies. You might get isolated cases where a driver, a boy probably, loses his temper. In our experience at Cowpen over the last six years we have only had five or six cases, and none of them what you might call of a serious nature. I think everybody is quite agreed that to overwork ponies is a bad policy. If they get out of condition, and get overworked, you cannot get the coal out, and if you do not get the coal out down goes your output and away goes your profit. I think it is recognised that to keep ponies in good condition, and to treat them well, is essentially necessary for good mining. The case which has been put forward in respect to the ill-treatment of ponies has been exaggerated so far as our district goes, decidedly. It does not apply at all to our district. Our practice is never to work any ponies double shifts. There are ponies, where they work eight-hour shifts, which require occasionally a double shift because it is found on a short shift they really get too fresh; but where a pony is worked double shift it is not systematic, it is only occasionally. As a rule our principle is never to work any ponies double shifts systematically at all. All the men have instructions if they want more ponies to ask for them, and they get them.

Mr. Henry Eustace Mitton, mining agent for the Butterley Company, Limited, who are raising coal from 15 collieries situated in Nottinghamshire and -Derbyshire with an annual output of over 1½ million tons, was the next witness. He was assistant general manager for the Tredegar Iron and Coal Company, Limited, Monmouthshire, from 1900 to 1905, and previous to that held positions as deputy and underground manager at collieries in Derbyshire connected with the Sheepbridge Coal and Iron Company, Limited. In the course of his evidence he said: I have reports from the veterinary surgeon who is in charge of the horses for the Company. We have 61 horses on the surface and 501 underground. He makes a regular examinotion of all the horses once a month, that is, he and his staff. Of course one veterinary surgeon cannot possibly do it all himself. They go through the stables and examine the horses, not taking each horse, but taking them out here and there generally and specially noting any horses to which their attention has been called by the ostler or the under-manager. I have discussed this matter with the veterinary surgeon, and he considers that if it is optional so that he could go and select any one anywhere, and he goes and picks out horses here and there, he can see generally the whole of the condition of the horses, and if any horse is suffering and his attention is called to it, see the under-manager of the mine who is responsible for the horses, or the under-manager could ask him specially to see those horses who were suffering during the month. The horskeeper keeps an account of all the sick or injured horses during the month which the veterinary surgeon sees.

The maximum number of days worked by one colliery is 259¾ per annum, and the minimum 167¾ days. The average number of days worked by all the collieries is 214 per annum. The highest average hauled per day underground by one horse during the year ending March 31st, 1910, was 21·5 tons; the lowest average was 6·9; the average hauled per day underground by all the horses was 13·5 tons. The highest average number of miles per day travelled under load by one horse underground during the year was 13; the lowest average was 6; the average number of miles per day under load travelled by all underground horses during the year was 7·8.

As to the average quantity of food consumed per day, over all the collieries the corn worked out at 8½ lbs. per horse, and the hay at 13·9 lbs. The total number of horses killed by accident was 10 out of 501, which is the total number underground. That is 1·9 per cent. An instance of an accident is the case of where a horse is coming down with some tubs and the locker breaks, or the horse puts his foot on the rail and slips, and the weight of the tubs throws him forward and breaks his leg or cripples him in some manner. He is destroyed in the workings; right where the accident takes place. So that by "killed by accident" I mean killed or seriously disabled and having to be destroyed. Nearly 8 per cent. of horses die every year; that is including those sent out which are old and worn out. The average height underground of our horses is 13 hands 2 inches. We have 19 partly-blind horses, and 6 totally blind, out of the 500. The horses are purchased by myself, subject to being passed by an experienced man as to age and soundness. I have a man who is kept on purpose; he is a farm bailiff who is experienced in horses, and he is responsible to see that the horse is all right. I generally prefer the age of five. They are tested by the "mallein" test for glanders by the veterinary surgeon. Then they have a fortnight's trial after being sent to the pit. After test, if satisfactory, they are allotted to the various pits where required, and name, age, colour, height, etc., are entered in the register under a special number, so that a full record is kept of the horse. It is the custom after the horse has gone down to allow it 48 hours in the stable underground to get its eyesight and settle itself. We do not allow any horse to stay if he exhibits any signs of temper when he is first put in the pit, such as kicking or jibbing, or baulking. We send him out and have him replaced, but the percentage of horses that prove unfit for the work and have to be returned does not amount to more than 2 per cent.

All the underground stables are cleaned daily and the horses are kept in single stalls. In most cases those stalls are divided by brick walls with the ventilation passing over the top. The brick wall is not brought right up to the top of the roof; there is sufficient space allowed for the air to travel over the top. In some cases we have posts and timber instead of the brick wall. The horses are daily bedded with clean sawdust, and out of 15 stables underground we have five stables lit with electric light. In all the stables the horses have drinking troughs supplied with water either from the surface or upper measures, and these troughs are filled ready for the horses when they come in from work, and are left filled when the ostlers go out of the pit. We limewash the stables out from time to time, whenever the manager of the mine considers it necessary. The stables and ponies underground are examined every month by a veterinary surgeon, who is retained but not fully employed by the Company, and the veterinary surgeon sends direct to me a report at the beginning of every month, on every underground stable, drawing my attention to any horses or ponies who are suffering from accident or illness, and any other matters which he thinks should be rectified or improved. I write the manager of the colliery, and send him a copy of the veterinary surgeon's report if necessary.

I have read in the Press and elsewhere general complaints of the treatment of ponies in mines. I think that they are unfounded, as is shown by the anonymous letter which was sent to the Inspector with regard to some horses under the Butterley Company. The charge which was brought against the Butterley Company was

absolutely groundless, and if the letters that have appeared in the Press are of the same character, I do not consider they are worth very much. I should say that the ponies underground are better than the horses on the top, as they are not subject to the variations in the weather. We have more horses on top with colds than we have underground. The oldest pony that I can trace is one which has been underground more or less for 24 years. I have seen this pony myself at our Waingroves Colliery quite recently. The pony looks aged, but he certainly seems to have plenty of life in him yet. The average working life of the ponies is from six to seven years. That is including horses killed by accident and dying, but not including the horses which we returned as wasters—horses which kick. Each horse is registered under a number and name, and then a blank and so many lines left below the number, so that if the horse is No. 700 and he is called "Tom," and "Tom" dies, the horse that replaces him is called "Tom," and he is numbered 700. We always keep the same number and name. We find that much easier to trace in our books.

The Midland Coal Owners, whom I represent in my evidence as well as the Butterley Company, have had enquiries made, and out of 30 collieries 17 connected with the Association in Derbyshire and Nottinghamshire replied that they maintain a veterinary surgeon who makes a report on all ponies underground. There would be no objection to that report being seen by the Inspector of Mines. The Inspector examines all the ponies. Some ponies going out are without food and water for eight hours at the Kirkby Colliery. This has been in vogue for six months, and I should say, from the examination of those ponies, it is not too long for them to be without water. I have a strong objection to watering ponies in the workings of a mine. In watering in a mine orders may be given for troughs to be filled and tanks sent out, and the manager believes that the ponies are being watered and fed in the workings, the result is if a pony has to be kept back it is assumed he has been watered, and that there is no hardship for him to stay back a few hours. What I have found from past experience in watering in mines is that very often these tanks do not get into the right district, and the result is that some ponies get too much water and others none at all. It does not do a pony harm to be without water for eight hours, and we have adopted at the Butterley Colliery a system that every pony and horse has to come back to his stable every eight hours to have a feed and water. I consider that is a better system than relying on the tanks being sent to the district.—*The Iron and Coal Trades Review.*

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Cattle that died from Fright.

At Haslingden County Court, on Thursday, 3rd inst., before Judge Hane Hamilton, John Ward, of Park Farm, Church, sued A. Graham and Sons, contractors, Huddersfield, for £67. Mr. Broadbent, of Blackburn, was for plaintiff, and Mr. J. Harrop Dransfield, of Hudderfield, barrister, was for the plaintiff.

Mr. Broadbent said the claim principally arose from the death of five cows alleged to have been caused by the shock of blasting operations whilst defendants were carrying out sewerage works through plaintiff's farm land, In the latter part of 1909 the Church Urban District Council decided to proceed with a somewhat large sewerage scheme, and they entered into negotiations with the owners of certain estates through which the pipe track would pass. Capt. Petre was owner and plaintiff was tenant of a farm through which the pipe track ran. Permission to go through the land was given on condition that any surface damage should be made good.

Mr. Dransfield contended that under the act any damage arising from the exercise of these powers must be made good by the urban authority, and that it was impossible to sue any person the urban authority employed.

Mr. Broadbent said defendants were not servants, but independent contractors. The local authority on Nov. 23rd, 1909, entered into a contract for the construction of a main sewer from Fox Street to the outfall sewerage works at Coppy Clough. The contractors (defendants) commenced work about the beginning of 1910. For a distance of 180 yards the line of pipes had at one part to pass through plaintiff's land at a distance of 50 to 100 yards from his farm buildings, and at another part to within a few yards of the shippon and outbnildings. In the early part of the operations it was found that the land on plaintiff's farm was almost entirely of a rocky nature close up to the surface. This necessitated blasting operations, which were commenced in January and continued to the middle of May.

Mr. Dransfield said plaintiff had got all he could from the District Council, and all that he was doing now was trying to get from defendants what he could not get from the Council.

Mr. Broadbent said the Council paid £33 for disturbance of the pipe track itself, and denied their liability for other damage. The blasting was within a few yards of plaintiff's shippon. Witnesses would say that houses half a mile away were shaken by the explosions." Whilst the blasting was going on plaintiff bought on different occasions five newly-calved cows. Within a few days of the first of these being brought to the shippon it became nervous, ceased to give milk, and sickened. Its ailment was a mystery to Mr. Allen, the veterinary surgeon, and after a few days the cow died, though it had no signs of any organic disease. What happened with this cow happened with three others. In May Mr. Allen was attending the fifth cow. Whilst he was examining it he heard the reports of blasting, and after asking what it was he saw that the noise caused the cattle to jump with fright, and concluded that each of the cows had died from this shock. Mr. Allen would tell the court what a nervous animal a cow was, and particularly a newly-calved cow. This last cow whilst ill, but not suffering from any organic disease, was sold to a butcher, who would say that the cow was absolutely sound. Some fifteen years ago the butchers and cattle dealers of Blackburn successfully objected against the "one o'clock gun" at Blackburn being fired on Wednesdays because of its effect on cows. Plaintiff claimed £10 for each of the five cows, but they were worth £15 each. In addition £17 was claimed for damages by the contractors erecting huts on the land, and by their workmen breaking down fences and hedges and trespassing. This again was an absurdly reasonable sum to claim.

Mr. B. S. Daniels, steward for Capt. Petre's estate, said there was blasting two or three times a week. Cross-examined, he said he never made any complaint as to the way the work was done.

After plaintiff had been called,

Mr. H. B. Allen, veterinary surgeon, described the explosion he heard as "terrific." He attributed the death of the cows to nervous exhaustion, caused by the shock of the explosions. A cow was the more frightened by a noise which to it was mysterious.

Cross-examined, he said he had not previously known a case of this kind. If Professor Owen Williams said it was an unheard of thing for a cow to die from shock, that would not affect his (witness's) opinion. A post-mortem examination would not have revealed anything in a nervous complaint. He would swear the cows did not die from blood poisoning.

Jacob Haworth, wholesale butcher, Church, who

bought the last of the cows, said it was perfectly sound.

Mr. Dransfield said the sewering was done under the Public Health Act of 1875, and under that Act the Urban Council were responsible if any damage had been suffered. If it were otherwise the work of a contractor would be impossible. Defendants had done their work well.

Mr. Broadbent said notice of this plea should have been given if it were relied on.

His Honour said he would carry the case as far as he could, and if it became necessary the contractors and the Council must settle the matter between themselves.

Professor Owen Williams, of Liverpool University, veterinary surgeon to the King, said he had never heard of a cow dying from shock. He should say these cows died from blood poisoning. It was very common for cows after calving to be afflicted with blood poisoning, and in many cases the symptoms were extremely vague.

William Wood, surveyor for Church District Council, said whatever damage the contractors did the Council expected the contractors to pay. The Council said the contractors were liable for these cows if they died through the blasting.

George Hy. Graham, one of the defendant firm, said the explosion was simply a dull thud, with very little vibration.

Mr. Dransfield asked that the District Council should be joined as defendants.

His Honour said the matter might be left with him. The Council would only want to do its duty. At present he said plaintiff had suffered damage to the extent of £40. Defendants and the Council should settle the matter between them from now and next Court, and he would then enter judgment on what they arranged.

The effect of this is that plaintiff is awarded £40 damages, the defendants and Church District Council being left to apportion this amount.—*The Observer and Times.*

The London Horse-Omnibus.

The London General Omnibus Company are selling off horses at the rate of 100 a week, and expect by the end of next month to have taken off the road their remaining 94 horse-omnibuses, and by a few weeks later to have sold their last horses. "We have got 1,300 horses left," said an official of the company, "and we are now selling 200 of them every fortnight. Before each batch is sold we take a certain number of omnibuses off the roads, and the last will come off about the last week in September. We are turning out 20 new motor-omnibuses a week from our factory. We do not, however, want to increase our fleet by this number per week at this time of the year and through the autumn and winter, so we are replacing 10 of the old omnibuses by new ones of the improved silent type each week." The striking growth of the numbers of motor-omnibuses and the decrease in horse-drawn ones in the last nine years is shown by the following table, showing the numbers of vehicles of each kind licensed on the streets on January 1st each year :—

	Horse	Motor		Horse	Motor
1902	3,736	10	1907	2,964	783
1903	3,667	29	1908	2,557	1,205
1904	3,623	13	1909	2,155	1,133
1905	3,551	31	1910	1,771	1,180
1906	3,484	241			

No figures are available for the present year, but the number of motor-omnibuses is now approaching 1,500.

The omnibuses will be broken up and the stables closed as the horses are sold.

Veterinary Inspection of Horses.

Circumstances are gradually forcing the question of veterinary inspection of horses at shows to the front. At the Clydesdale Horse Society Council meeting in the Inverness showyard last week, a communication was read from the Board of Agriculture asking whether the society would fall in with the suggestion of the Shire Horse Society and publish the list of stallions on the Government register in its studbook annually. An even more pressing phase of the same subject was raised by Professor M'Call. Under the rules of the Victorian Government, all horses imported into Victoria from Scotland must be certified sound by the Highland Society or the Glasgow Agricultural Society. Neither of these societies has a veterinary inspection at its show. Although Principal M'Call passed the horse over which the difficulty has arisen, his certificate has been refused, as it is not the certificate of a society, but of an individual veterinary officer. This raises the whole question of inspection in a rather acute form. It almost looks as if the Victorian authorities were trying to force the pace and impose public inspection at shows whether it is wanted in this country or not.

A Broken Pole-axe.—Hull Butcher and Employee fined.

At the Hull Police Court, on 19th ult., Ted Leathery butcher, was summoned for "not using, while slaughtering a blue roan heifer, such instruments, and not taking such precautions in the method of slaughtering, as might be requisite to secure the infliction of as little pain and suffering as practicable." George Ernest Coates, butcher, of Hull, who employed Leathery, was summoned for aiding and abetting his employee.

The evidence for the prosecution was that the beast was struck six times with the poleaxe before it was stunned. It was examined by a Corporation inspector, who found a piece of skin had been gouged out above the eye. The axe used by Leathery was found to be of little use, as half the punch was broken off and the shaft was insecure.

Mr. F. Payne, for the defence, intimated that the axe gave way at the first blow, and they had to go on and do the best they could with a broken axe.

The Magistrate remarked that if it were proved that there was only one axe in the slaughterhouse he would convict.

Mr. Payne : Does your Worship mean that there must be two axes in all slaughterhouses ?

The Magistrate : Yes, I shall convict every time if there are not.

Mr. Payne said that he admitted there was only one axe. He said that the animal was bought by Mr. Ingram, and was to be slaughtered in the defendant's Coates' yard. Ingram struck the first blow, which brought the animal to its knees. Then the axe gave way, They could not in common humanity stop, and Leathery continued until the beast was killed. That, he contended. was the proper thing to do.—The Magistrate agreed.

Mr. Payne said that Coates was charged with aiding and abetting Leathery, whose action had been admitted to be one of common humanity.

The Magistrate remarked that he would convict. He considered that proper precautions had not been taken when only one axe, and that a defective one, was provided. Coates was fined £5 and £1 15s. costs, or two months, and Leathery £1, including costs, or 14 days.—*Meat Trades' Journal.*

London's Motor 'Buses.

The London General Omnibus Company were obliged to withdraw a third of the 'buses yesterday (Wednesday) afternoon, and if the dock strike continues and further supplies of fuel are not forthcoming, they will be forced to withdraw nearly as many more to-day. Even with the intended withdrawals the existing supply of petrol will not last more than three days. The company controls 2,000 vehicles, and there is a very serious likelihood of the men being thrown out of employment.—*The Daily Telegraph.*

Feeding of Horses in Russia.

Some interesting details relating to the diet and food of horses in Russia are given by the United States Consul in Moscow. Oats, he says, constitute three-fourths of the food upon which the Russian horse must exist during the twelve months of the year. Among the upper classes 12lb. or 14lb. of hay are fed daily to the carriage and racehorses, in addition to the 20 quarts of oats that are thought necessary for a horse during the 24 hours. This hay consists principally of timothy in Finland and the central and southern portions of Russia. As the result of a light hay diet, Russian horses are remarkably free from the heaves, though a more serious trouble originates from a continuous diet of oats, namely, cracked skins and heels, with open sores. City horses never taste a spear of green grass, but appear to keep in fairly good condition with practically no attention from the grooms. They occasionally are given carrots, but this does not apply to the average work horse, driven at all times of day and night, and subjected to Russian winters. His endurance is one of the marvels of the country. The feeding of corn, mixed foods, or prepared diets is unknown in Russia except among the racing fraternity, who have adopted American ideas from the trainers brought over years ago from the United States.

The Exportation of Horses.

During last year 9,915 horses were examined at City wharves before being exported abroad. Of these 211 were rejected. In the course of the year an Act was passed requiring the Board of Agriculture to appoint veterinary inspectors who should examine every horse proposed to be exported to the Netherlands and Belgium, and grant a "permit" for those found suitable for shipment. Power was given to charge for so doing 2/6 per horse. The City Corporation approached the Board with a view to the allocation of a proportion of the fees so received in relief of the expenses ineurred by them as the local authority in enforcing the Act, but were informed that it was not within the power of the Board to comply with the suggestion.—*The Times.*

Leaving Carcases Unburied.

At Dumfries a farmer was recently charged with having permitted the carcases of three sheep and twelve lambs to remain unburied in fields on his farm, to which dogs could gain access, contrary to Section 6 of the Dogs Act, 1906. On behalf of accused it was pleaded that he had simply been following the usual practice of the district at lambing time. In ordinary circumstances when a sheep died the practice was to skin it and bury the carcase, but that could not be done at lambing time, because if men were engaged skinning sheep and afterwards worked among lambing ewes, the ewes were liable to contract inflammation. The practice was to leave the dead sheep lying for a few days, when the wool could be pulled off and saved. In the case of lambs the custom was to take off their skins and put these on other lambs, so that the mothers of the dead lambs might look after them as their own. The Sheriff said it was a very objectionable practice. It might be that meddling with dead sheep was a very bad thing for those attending to the lambing, but the answer to that was that someone else should be got to see to the dead sheep. In imposing a fine of £1, he hoped it would be taken as a warning against the general practice.

Plucking Live Geese.

Though scarcely within the scope of this department of the *Gazeete* we are asked for an opinion on the subject matter of the plueking of live geese. It is to our minds just a work of necessity, and and as such is justifiable be it cruel oa otherwise. It has been proved that geese (domestic geese that is to say) grow coarse, become verminous, thin, scraggy, and unhealthy if left unplucked and, *ergo*, useless. Let the critics think the matter out calmly, and they must admit that such a process is every bit as necessary as the castrating of animals not intended for stud purposes,, the dehorning of cattle, or any other operation severe or simple that often has to be done on some animal or other. It seems to us many folks dub anything "cruel" that happens to be "painful."—*The Farmers' Gazette* (Dublin).

The Dublin Horse Show.

The forty-fourth annual horse show of the Royal Dublin Society is announced to take place at Ballsbridge on Tuesday, the 22nd August, and three following days. Valuable money prizes, cups, etc., are ofiered for thoroughbred stallions, brood mares, and yearlings, hunters, riding cobs and ponies, and harness horses. Two special jumping competitions over the course are provided—one for British military officers quartered in Ireland, and the other for naval and military officers of any nationality.

Personal.

Mr. J. Birkenshaw Idle, M.R.C.V.S., Rudding Mount, Harrogate, a graduate from the Royal (Dick) College, Edinburgh, has been selected by the B.S.A. Co., to fill an appointmentment in Africa. Mr. Idle sails from London for Salisbury, Rhodesia, on Sept. 2nd.

OBITUARY.

Ernest Ashworth, M.R.C.V.S., Helmshore, Manchester
Graduated, New, Edin : May, 1900.

The interment took place at the family vault at Ramsbottom on Saturday, July 29th. The deceased was 32 years of age, and served in the South African War. He was brother to the late Mr. A. E. Ashworth, manager of James Barlow and Sons, of Sunnybank and Albert Mills, Helmshore, and President of Helmshore Conservative Club. He leaves a widow and three children.

Chas. K. Dobson, M R.C.V.S., Holbeach, Lincs.
Lond : April, 1888.

Death occurred on July 22nd from sarcoma of neck. Aged 44 years.

Walter Henry Campsall, M.R.C.V.S., Hartington, Derby.
Edin : Dec., 1896.

Mr. Campsall died on Aug. 4th, at his residence, from, cardiac failure, at the age of 42 years.

Mason.—On August 3rd, at Grafton House, Leeds, in her 45th year, Edith C., wife of A. W. Mason, F.R.C.V.S.. Interment at Lawnswood Cemetery, on Saturday, Aug. 5.

CORRESPONDENCE.

PROFESSIONAL FEES.

Sir,

I think it only right to say that since the appearance of my letter in *The Veterinary Record*, I have had a communication from the firm of whose fees I complained, saying that I was in error about the charge of 4/6 being their fee for treating a cat for a week in their hospital, and that their fee was 5/- per week. In justice to myself, however, I should like to add that the lesser sum was given me twice, on the second occasion by one of the members of the firm in question.

In reply to "*Vis uwita fortior*," perhaps my letter was not very explicit; so far from gaining a client, I lost one. A former client had evidently been scared by my fee of 10/6 a week, and had made enquiries of the firm in question as to their fees, and found that this was less than half mine. He then had a cat treated by them, and when summoned by me in the County Court for payment of my account entered the defence that my fees were exorbitant, that he could get the same hospital treatment for less than half my fee. Naturally I questioned this, when he produced the receipt authenticating his statement.

To the London veterinary surgeons who have written me suggesting a round table conference to discuss the fee question, I should like to say that for the next two months London veterinary surgeons will probably be pretty much scattered, but that if after Michaelmas, they are still in the same mind, I should be pleased to assist in making arrangements for such a meeting.—Yours, etc.,

H. J. R. POPE, M.R.C.V.S.

Sir,

It is possible that the public discussion of this subject in your columns may do some little good, provided that such discussion is conducted civilly and reasonably. I make this proviso because, though the first of the two letters you have published was quite unobjectionable in this respect, the tone of the second prompts the reflection that any such discussion might easily degenerate into a series of anonymous ebullitions of spite and stupidity directed against one successful firm. I, however, who am a "mere rural person," and do not keep an infirmary at all, only wish to call attention to one aspect of the question, which should not, I think, be disregarded. This question of fees for the keep and treatment of dogs and cats resembles many other subjects connected with veterinary work and remuneration in one respect—that, though it is partly a professional question, there is also a considerable element of trade in it. That being so, we ought fairly to consider the actual monetary cost to the veterinary surgeon of keeping a canine or feline patient.

The just and reasonable weekly terms for the keep and treatment of *cats* are mentioned by your two correspondents; and I venture to suggest that such questions as the following deserve consideration in connection with any estimate of these. What is the average cost of a cat's food per week, especially of a confined one taking no exercise? What is the cost of a cat's house-room?—and here it should be remembered that a cat's cage is generally an inexpensive and fairly durable article of furniture, and that a goodly number of such cages can be superposed in a room which, if unfurnished, would only command a very low rent indeed. What fraction of an infirmary attendant's weekly wage should be put down to the account of an individual cat?—one attendant can look after a good many. All these points, and other similar ones, should be, and no doubt are considered by the men who keep canine and feline infirmaries, but there seems to be a conspiracy of silence regarding their details. It would be a new thing if the results of a few calculations of this sort were made public; but I fancy the novelty might prove an instructive one.

There is certainly a great difference between a weekly charge of 4/6 per week, and a minimum one of 10/6. I know that the latter is quite the usual one in the West End of London, and a very common one elsewhere—indeed, I think I could name provincial veterinary surgeons who habitually charge more. But is not the disparity capable of two interpretations? One, of course, is that 4/6 per week is "ridiculous." Another is that veterinary charges in general for keep and treatment of small animals in infirmaries are unreasonably and extortionately high. Perhaps some of your readers who themselves keep infirmaries will write and try to disabuse my mind of the latter impression.—Yours faithfully,

"RUSTICUS."

MR. KIRK'S APPEAL CASE.

Sir,

May I ask your courtesy to allow me to bring to the notice of your readers the fund which has been organised to provide the sinews of war in defending the veterinary surgeons' right to use the College crest.

As most members of the profession are aware, Mr. William Kirk, M.R.C.V.S., has successfully proved to the satisfaction of Mr. Curtis Bennett, the Bow Street magistrate, that the profession has this right. Against that decision the London County Council is appealing in the High Court, and to defend that action money will be required.

Since this is a matter affecting a large number of men in the profession, it has been felt to be unfair to let Mr. Kirk bear the whole cost. Those members who use the crest will, if the action is undefended, have to pay for its use annually. If they subscribe to an adequate defence fund, it is hoped our right will be established once for all.

An account has been opened at Parr's Bank, Camden Town Branch, and cheques should be made payable to the undersigned there. "To help promptly is to help twice."—Yours faithfully,

HAROLD A. WOODRUFF.

Royal Veterinary College, Camden Town.
August 9th.

FLIES.

Sir,

Does any veterinary surgeon know of a good dressing to ward off flies from horses and cattle. Country practitioner would be very grateful for any hints.—Yours, etc.,

A. B. C.

RE SWINE FEVER.

Sir,

I have received several congratulations upon what I have tried to fathom respecting this disease, and beg to tender my best thanks. The subject is open to criticism, so my suggestion on the eradication of this disease are:

(1) That the Board of Agriculture should see that boars and sows are not kept too long for breeding.

(2) That piggeries should be better constructed as regards drainage, air spaces, etc., and pigs not overcrowded.

(3) That market pens should be made impervious barriers, and no contact allowed between each lots.

(4) That unhealthy looking pigs should not be exposed for sale.

(5) The Board of Agriculture should send delegates to other countries to see that the waste of pig food in England which, if mixed half weight for weight with meal, would produce bacon and pork enough for our population if properly collected. Holland can produce pork profitably, and send it to England below 6d. per lb. Why should not we do so?—Yours, etc.,

GEO. UPTON.

Original articles and reports should be written on one side of the paper only and authenticated by the names and addresses of the writers, not necessarily for publication.